



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/506,626

09/03/2004

Yuichi Terada

DK-US020720

5169

22919 7590 04/20/2007  
GLOBAL IP COUNSELORS, LLP  
1233 20TH STREET, NW, SUITE 700  
WASHINGTON, DC 20036-2680

EXAMINER

NALVEN, EMILY IRIS

ART UNIT

PAPER NUMBER

3744

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

04/20/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/506,626

Applicant(s)

TERADA, YUICHI

Examiner

Emily I. Nalven

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 September 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date Sept. 3, 2004, Feb. 15, 2006.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

It is noted that this application appears to claim subject matter disclosed in prior Application No. JP Patent 2002-330328, filed Nov. 14, 2002. A reference to the prior application must be inserted as the first sentence(s) of the specification of this application or in an application data sheet (37 CFR 1.76), if applicant intends to rely on the filing date of the prior application under 35 U.S.C. 119(e), 120, 121, or 365(c). See 37 CFR 1.78(a). For benefit claims under 35 U.S.C. 120, 121, or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of all nonprovisional applications. If the application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference to the prior application must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e),

Art Unit: 3744

120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If the reference to the prior application was previously submitted within the time period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference was submitted in an oath or declaration or the application transmittal letter), and the information concerning the benefit claim was recognized by the Office as shown by its inclusion on the first filing receipt, the petition under 37 CFR 1.78(a) and the surcharge under 37 CFR 1.17(t) are not required. Applicant is still required to submit the reference in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the specification or an ADS. See MPEP § 201.11.

### ***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Art Unit: 3744

The following title is suggested: Indoor Air Conditioning Unit with V-Shaped Heat Exchanger.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claim 5** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter which applicant regards as the invention. The term "strong" in claim 5 is a relative term, which renders the claim indefinite. The term "strong" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear to what level of strength the applicant refers.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-7** are rejected under 35 U.S.C. 102(b) as being anticipated by Gunji et. al. (US Patent Pub. 2002/0144513).

**In regard to claim 1**, Gunji et. al. teach an indoor unit (100) of an air conditioner (see Fig. 1 and para. 54) comprising a ventilation fan (400), a heat exchanger

having an approximate V-shape (500, 510, 520) (see Fig. 4 and para. 55) in which refrigerant flows that are connected thereto (para. 62) and which is disposed so as to cover the upper portion of the ventilation fan (400) (see Fig. 4) and a support unit (120) that supports the ventilation fan (400) wherein each portion of the support unit (120) is positioned lower than a height of an apex of the ventilation fan (400) (see Fig. 3 and para. 56).

The recitation of "approximate inverted V-shape in cross-section" has been interpreted as a plurality of the heat exchangers combined to form a bent shape. **In regard to claim 2**, Gunji et. al. teach an indoor unit (100) of the air conditioner wherein the heat exchanger (500, 510, 520) is disposed so as to cover front, upper and rear portions of the ventilation fan (400) (see Fig. 12).

**In regard to claim 3**, Gunji et. al. teach the indoor unit (100) of the air conditioner wherein the heat exchanger (500, 510, 520) is installed on the support unit (120) on which the ventilation fan (400) has already been installed (see Fig. 3 and Fig. 4).

**In regard to claim 4**, Gunji et. al. teach the indoor unit (100) of the air conditioner comprising an electrical component box (140) that accommodates electrical components (see Fig. 12 and para. 56), and which is supported by the support unit (120) so as to be at the height of the apex of the ventilation fan (400) and wherein the electrical component box (140) is installed on the support unit (120) (see Fig. 3 and Fig. 12).

**In regard to claim 5**, Gunji et. al. teach the indoor unit (100) of the air conditioner wherein the ventilation fan (400) has a cylindrical shape (see Fig. 3 and Fig. 4) and is disposed so that a central thereof is horizontal (see Fig. 3) and the indoor unit further comprises a drive device (410) that rotatively drives the ventilation fan (400) and is disposed on the same axis as the ventilation fan (400) (see Fig. 3 and para. 57) wherein the electrical component box (140) is disposed so that the electrical components are lined up in the axial direction with the drive device (410) (see Fig. 3 and para 57).

**In regard to claim 6**, Gunji et. al. teach the indoor unit (100) of the air conditioner further comprising a drive device (410) that rotatively drives the ventilation fan (400) (see Fig. 3 and para. 57) wherein the support unit (120) supports the ventilation fan (400) (see Fig. 3), the electrical component box (140) and the drive device (410) from below when viewed from the front support unit (120) (see Fig. 3 and Fig. 4 and para. 57) and the lower surface of the support unit (120) is formed to be flat (see Fig. 3). It is presumed to be that the ventilation fan (400), electrical component box (140) and drive device (410) all rest atop the support unit (120). The recitation of "flat" is interpreted to be anything that is horizontally level as illustrated in Fig. 3.

**In regard to claim 7**, Gunji et. al. teach a method of assembling an indoor unit (100) of an air conditioner comprising a first step in which a ventilation fan (400) is installed on a support unit (120) (see Fig. 3) in which each portion of the support unit (120) are positioned at a height of an apex of the ventilation fan

(400) or lower (see Fig. 2 and Fig. 3) when the ventilation fan (400) is supported thereon; a heat exchanger (500, 510, 520) that is connected to lines (129) in which refrigerant flows are installed (see para. 62) so as to cover an upper portion of the ventilation fan (400) (see para. 61) and a back surface member (110) that covers a back surface of the heat exchanger (500, 510, 520) and forms a back surface side air flow path (see Fig. 5).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kenichi (EP 0816788 A2) teaches a V-shaped heat exchanger.

Price (US Patent No. 5,979,169) teaches an indoor and outdoor air-conditioner with a V-shaped heat exchanger.

Shindo et. al. (US Patent No. 6,782,707) teach an air conditioner with V-shaped heat exchangers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily I. Nalven whose telephone number is 571-272-3045. The examiner can normally be reached on Monday - Thursday 8 AM - 5:30 PM and on alternate Fridays 8 AM – 4:30 PM.



Art Unit: 3744

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J. Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emily Iris Nalven  
Art Unit 3744

  
CHERYL TYLER  
SUPERVISORY PATENT EXAMINER